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IDENTIFIERS

*Monitoring: *Waste Water Treatment

ABSTRACT

This document is an instructional module package prepared in objective form for use by an instructor familiar with State and Federal wastewater treatment plant operation and discharge permit reporting requirements and knowledgeable in the proper completion of the Iowa Department of Environmental Quality (DEQ) monthly Operation report forms and the Federal Environmental Protection Agency (EPA) quarterly report forms. Included are objectives, instructor guides, student handouts, and transparency masters. This module considers interpretation of DEQ and EPA permits to identify reporting requirements and proper completion of the various report forms. (Author/RH)

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MONITORING REPORTS

Training Module 4.300.3.77

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Mary Jo Bruett

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM,"

Prepared for the

Iowa Department of Environmental Quality
Wallace State Office Building
Des Moines, Iowa 50319

Ъу

Kirkwood Community College 6301 Kirkwood Boulevard, S. W. P. O. Box 2068 Cedar Rapids, Iowa 52406

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September, 1977

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Module No: Module Title: Monitoring Reports Submodule Title: Operation Permit System - Monthly Monitoring Report Approx. Time: Federal Discharge Monitoring Report Form 3320-1 9½ hours Overall Objectives: Upon completion of this module the learner should be able . to complete properly with no errors: a. Operation permit record - Monthly monitoring report Forms SQMD I, III, or V or VI or VII. b. Federal discharge monitoring report Form 3320-1!. Instructional Aids: Handout AV (Overhead transparancy) Calculator Instructional Approach: Discussion Demonstration Exercise .

Iowa Department of Environmental Quality Water Quality Management Division.

Class: Assignments:

State Discharge Permits

References:

Read handout Complete forms

	· ·	Page 4 of 7
Module No:	Topic: Summary	
Instructor Notes:		Instructor Outline:
The emphasis is pla a performance in fi the forms.	ced upon lling out	I. Purpose II. State form WQMD I, III, V, VI, VII
		[II. Federal Forms EPA 3320-1
8		IV. Evaluation
	•	

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Module No:

Module Title:

Monitoring Reports

Submodule Title:

1. Operation Permit System
2. Monthly Monitoring Report

Topic:

1 hour

State Discharge Permit

Objectives:

Upon completion of this module the learner should be able to identify the State' discharge permit requirement to include:

- a. Parameters
- b. Average maximum and minimum concentration of parameter
- c. Frequency of measurement of parameter
- d. Sample location

Instructional Aids:

Handout
AV (Overhead transparancy)
Calculator

Instructional Approach:

Discussion Demonstration Exercise

References:

Iowa Department of Environmental Quality Water Quality Management Division. State Discharge Permits

Class Assignments:

Read handout Complete forms

Page 6 of 75

Module No: Topic:
State Discharge Permit
Instructor Notes: Instructor Outline:

Display a copy of a permit and indicate the parts and sections of the permit.

- 1. Parameters Indicate how to identify the parameters needed to be recorded from permits.
- 2. Average maximum and minimum concentration of parameters. Discuss and demonstrate how to determine the average maximum and miminum concentrations of parameters.
- 3. Frequency of measurement of parameter. Indicate the frequency of measurement of parameters required by permit.
- 4. Sample location Indicate the sample location required by permit.

•	Page / Of /5
Module No: .	Module Title:
	Monitoring Reports
· .	Submodule Title:
Approx. Time:	Operation Permit System Monthly Monitoring Report
	Topic:
½ hour	Industrial/Commercial Contributor Monitoring Report Form I WQMD III.
Objectives:	
operation permit	f this module the learner should be able to complete the system Industrial/Commercial contributor monitoring report II.
•	
Instructional Aids:	
Handout Demonstration Exercise	
Instructional Appro	ach:
Discussion Demonstration Exercise	
••••	
References: .	
Iowa Department (State Discharge F	of Environmental Quality Management Division.

Class Assignments:

Read handout Complete forms



Module No: "

Topic:

Forms NOMD I & III

Instructor Notes:

Instructor Outline:

1. Emphasis should be placed upon the identification of each parameter, sample location and units of expression (MGD), (GPD), mg/l, S. U. etc.

Display a form and identify the sections of the form.

If a facility has more than one discharge, a report for each discharge should be completed

- 1. WQMD I and III. The two state forms WQMD I and WQMD III need to be completed according to requirements set by the permits.
- 2. Discuss/demonstrate the columns that need averaging, determining the maximum and minimum concentration of a parameter.
- Discuss/demonstrate the 24 hour sample collection both for influent/effluent at the bottom of form.
- 4. Indicate
 - a. Facility name
 - b. Facility number
 - c. Discharge serial number
 - d. Signature of agent
 - e. Title of agent
 - f. Remarks

Module No: Module Title: Monitoring Reports Submodule Fitle: Operation Permit System Monthly Monitoring Report Approx. Time: Topic: Waste Stabilization Lagoon Form WQMD V 5 Hour Objectives: Upon completion of this module the learner should be able to complete the. operation permit system monthly monitoring report for waste stabilization lagoon Form WQMD V. . Instructional Aids: Handout AV (Overhead transparancy) Exercise Instructional Approach: Discussion Demonstration Exercise References: Iowa Department of Environmental Quality Water Quality Management Division. State Discharge Permits

Class Assignments:

Read handout Complete forms

10 of .75 Page Module No: Topic: Waste Stabilization Lagoon Form WQMD ${\bf V}$ Instructor Notes: Instructor Outline: Display a copy of the form and 1:, Discuss/demonstrate the columns that need identify the different sections averaging, determining the maximum and of the form. minimum concentration of a parameter. Discuss/demonstrate the 24 hour sample collection both for influent/effluent at the bottom of form. Indicate Facility name Facility number If a facility has more than one Discharge serial number discharge, a report for each discharge should be completed. d. Signature of agent e. Title of agent Remarks

Page 11 of 75

Module No:	Module Title:
	Monitoring Reports
	Submodule Title: 1. Operation Permit System
Approx. Time:	2. Monthly Monitoring Report
	Fópic:
hour 1/2 hour	Trickling Filter Form WQMD VI
Objectives:	
Upon completion of operation permit sy Form WQMD VI.	this module the learner should be able to complete the stem monthly monitoring report for trickling filter
•	
Instructional Aids:	
Handout Av:(Overhead transp Calculator	
Instructional Approa	icn:
Discussion	
Demonstration · Exercise	
References:	
Iowa Department of I State Discharge Per	Environmental Quality Water Quality Management Division.
Class Assignments:	
Read handout Complete forms	

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Module No:

Fogic:

Trickling Filter Form WOMD VI

Instructor Notes:

Instructor Outline:

Display a copy of the form and indicate the different sections.

If a facility has more than one

discharge, a report for each discharge should be completed.

- 1. Discuss/demonstrate the columns that need averaging, determining the maximum and minimum concentration of a parameter.
- Discuss/demonstrate the 24 hour sample collection both for influent/effluent at the bottom of form.

ો. – Indi ca'te ՝

- a. Facility name
- b. Facility number
- c. Discharge serial number
- d. Signature of agent
- e: Title of agent
- f. Remarks 🙏

•	, Page 13 Or , 75
Module No:	Module Title: Monitoring Reports
Approx. Time:	Submodule Title: 1. Operation Permit System 2. Monthly Monitoring Report'
1/2 Hour	Topic: ** Activated Sludge Form WQMD VII
Objectives:	
Upon completion of operation permit s Form WQMD VII.	this module the learner should be able to complete the ystem monthly monitoring report for activated sludge

Instructional Aids:

Handout
AV (Overhead transparancy)
Calculator

Instructional Approach:

Discussion Demonstration Exercise

References:

Iowa Department of Environmental Quality Water Quality Management Division. State Discharge Permits

Class Assignments

Read handout Complete forms Module Ho:

Topic:

Activated Sludge Form WOMD VII

Instructor Notes:

Instructor Outline:

Display a copy of the form and identify the different sections

If a facility has more than one

discharge, a report for each discharge should be completed.

- Discuss/demonstrate the columns that need averaging, determining the maximum and minimum concentration of a parameter.
- 2. Discuss/demonstrate the 24 hour sample collection both for influent/effluent at the bottom of form.
 - 3. Indicate
 - a. Facility name
 - b. Facility number
 - c. Discharge serial number
 - d. Signature of agent
 - e. Title of agent
 - f. Remarks

•			
Module No:	Module Title:		,
• **	Monitoring Reports	•	, 5, .
	Submodule Title:	AND RESIDENCE TO A STREET OF THE STREET	
Approx. Time:	Topic:	•	
1½ Hours	Three Topics (1 Hr. per)	4	, , <u>, , , , , , , , , , , , , , , , , </u>
bjectives:		,	
Since the reporti revised, the obje is complete.	ng forms for water treatment an ctives and instruction will be	nd distribution written when	n are being the revision
The evaluation quifinalized.	estions do not apply to water s	ince'the form	revision is no
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Instructional Aids:	* •	, , ,	/
Handout / AV (Overhead tran Calculator			
Handout 7 AV (Overhead tran Calculator	sparancy)		
Handout / AV (Overhead tran	sparancy)		
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Handout AV (Overhead tran Calculator, Instructional Appro Discussion Demonstration Exercise References: Towa Department o	sparancy) ach: f Environmental Quality Water Q	uality Manager	ment Division
Handout AV (Overhead tran Calculator, Instructional Appro Discussion Demonstration Exercise References: Towa Department o	sparancy) ach: f Environmental Quality Water Q	uality Manager	ment Division

Read handout . Complete forms

Module No:

Module Title:

Monitoring Reports

Submodule Title:

Federal Discharge Monitoring Report - EPA Form 3320-1

Topic:

1 hour

Federal Discharge Permit

Objectives:

Upon completion of this module the learner should be able to identify the Federal permit requirements to include:

- a. Parameter
- b. Average and maximum quantity and concentration of parameter
- c. Frequency of measurement of parameter
- d. Sample location

Instructional Aids:

Handout AV (Overhead transparancy) Calculator

Instructional Approach:

Discussion Demonstration Exercise

References:

Self-Monitoring Procedures, Basic Parameters for Municipal Effluents, EPA 430/1-74-015 Federal Discharge Permits

Class Assignments:

Read-handout Complete forms



Nodule No: Topic:
Federal Discharge Permit

Instructor Notes: Instructor Outline:

Display a permit and identify the different section.

- 1. Parameters Indicate how to identify the parameters needed to be recorded from permits.
- 2. Average maximum and minimum concentration of parameters. Discuss and demonstrate how to determine the average maximum and minimum concentrations of parameters.
- Frequency of measurement of parameter. Indicate the frequency of measurement of parameters required by permit.
- Sample location Indicate the sample location required by permit.

Page 18 of : 75

Module No:	Module Title:	0
	Monitoring Reports	
	Submodule Title:	
Approx. Time:	Federal Discharge Monito	oring Report - EPA Form 3320-1
	Topic:	
3 hours	FPA Form 3320-1	

Objectives:

Upon completion of this module the learner will demonstrate the ability to complete EPA form 3320-1 Federal Discharge Monitoring Report.

Instructional Aids:

Handout AV (Overhead transparancy) Calculator

Instructional Approach:

Discussion Demonstration Exercise

References:

Self-Monitoring Procedures, Basic Parameters for Municipal Effluents, EPA 430/1-74-015 Federal Discharge Permits

Class Assignments:

Read handout Complete forms



Hodule No:

Topic:

PPA Form 3320-1

Instructor Notes:

Instructor Outline:

Display a copy of the form and identify the different sections.

Display a completed form

Display an incorrectly filled form.

If a facility has more than one discharge, a report for each discharge should be completed.

- Discuss/demonstrate the columns that need averaging, determining the maximum and minimum concentration of a parameter.
- 2. Discuss/demonstrate the 24 hour sample collection both for influent/effluent at the bottom of form.
- 3. Indicate
 - a. Facility name
 - b. Facility number
 - c. Discharge serial number
 - d. Signature of agent
 - e. Title of agent
 - f. Remarks

Module Title: Module No: Monitoring Reports Submodule Title: EVALUATION:

Objectives:

. Gi ve n:

- 1. Discharge permits
 - .a. <u>S</u>tate
 - b. Federal
- Data pertaining to 2.
 - a. 3 operation permit system monthly monitoring report
 - b. Federal discharge monitoring report EPA Form 3320-1

The learner upon completion of this module should be able to complete with no . errors:

- 3 Operation permit systems monthly monitoring report for consecutive months.
- b. 1' Federal discharge monitoring report EPA Form 3320-1, a quarterly report.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - FINAL

Permit No. IA-0044130

1. During the period beginning on the effective date and lasting through April 24, 1977, permittee is authorized to discharge from outfall serial number 001.

Such discharges shall be limited and monitored by the permittee as specified:

				,		1 mum	,
	Efflu	<u>ent'Limitat</u>	ions	,	Monitorin	g Requirem	ents ··
Wastewater Parameter	. kg/day (lbs/d Daily Avg.	ay) Max.	Other Unit Daily Avg.	ts (Specify) Max	Measurement Frequency	Sample Type*	Sample Location*
Biochem≯cal Oxygen Demand (5-day)	7944 (17,514)	10,328 (22	,768) 50 mg/1	65 mg/1 °	6/week	composite	1, 2
Suspended Solids	,11,122 (24,510)	13,505 (29	,774) 70 mg/1	85 mg/1	6/week	composite	1, 2
Flow = m^3/day (MGD)	-	158	,970 (42:0)	. 181,680 (48	.0) daily		2 3
pH	6.9-9.0 (no	t to be ave	raged)	· , · · · ·	6/week	grab	1, 2
Fecal Coliform		20	0/100 ml .	400/100 ml	.2/week	grab	~2 ₃ ·
Total Heavy Metals	i-		*	2.0 mg/1	. 2/month	composite	1, 2
Ammonia Nitrogen (as N) 1900 (4200)	7006 (317	8) 12 mg/1	20 mg/1	6/week	composite	1, 2
There shall be no disc	harge of floating	or cattlash	la cubetancee	in other than	. +	***	

There shall be no discharge of floating or settleable substances in other than trace amounts

All composite samples are 24 hr. composites (9 samples at 3 hr. intervals).

S

^{**}Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): (1) raw influent into wastewater treatment facility, (2) final effluent from wastewater treatment facility.

^{***}The total heavy metals group shall be determined by the sum of the individual analyses for Barium, Chromium (hexavalent and trivalent), Copper, Lead, Zinc, Selenium, Mercury.

Outfall Serial Number

Description

002 Main bypass at main treatment plant-003 Intermediate bypass at main treatment plant 004 Southside trunk overflow at S. E. 9th Street 005 Westside interceptor overflow at confluent of Des Moines River and Raccoon River 006 Westside interceptor overflow at Court Avenue 007 Westside interceptor overflow at Walnut Street 800 Westside interceptor overflow at Locust Street 009 Eastside interceptor overflow at East Locust Street 010 Westside interceptor overflow at Grand Avenue 011 Eastside interceptor overflow at East Grand Avenue 012 Westside interceptor overflow at Center Street dam 013 McVicar Freeway storm sewer outlet at West River Drive 014 Eastside interceptor overflow at East Washington 015 Eastside Tinterceptor overflow at Birdland Pumping Station 016 Westside interceptor overflow at 2nd Avenue & Franklin St. 017 Closes Creek overflow at Hickman and Prospect Road 018- 、 Prospect Road pumping station overflow 019 Aurora Avenue pumping station overflow 020 Bloomfield trunk overflow at McKinley Ave. pumping station 021 Bloomfield trunk overflow at S. E. 8th and Yeader Creek 022₹. Bloomfield trunk over-low at S. E. 6th and Header Creek 023 East 20th St. interceptor overflow at SE 20th St. & Dean Ave 024 Southside overflow at S. E. 9th and Hillside to Holding Basi 025 Southside overflow at S. W. 9th and Virginia 026 Southwest outfall overflow at 56th and Woodland 027 Southwest outfall overflow at Merle Hay Road & Holcomb 028 Ingersoll Run overflow at 22nd & High Street 029 Overflow at 32nd & University **030** Birds Run overflow at 8th Pl. and Keosaugua Way 031 Birds Run overflow to 21st and Carpenter to storm sewer 032 Overflow at 19th and University' 033 Closes Creek overflow at 28th and Forest 034 Overflow at 31st and Carpenter 035 Closes Creek overflow at 30th St. South of Franklin 036 Overflow at Clark Street west of 27th Street **037** . . Closes Creek overflow at Forest and Randall Place 038 Choses Creek overflow at 39th and University 039 Closes Creek overflow at 30th and Holcomb 040 Overflow at 16th and College

August, 1975

TO: All Waste Disposal System Owners and

Wastewater Treatment Plant Operators

RE: Records of Operation Forms

Records of Operation forms have been modified to more closely correspond to Iowa Operation Permit monitoring requirements. The forms previously in use (WWTR series) should be discarded upon receipt of the new forms. All monitoring required by your operation permit should be entered onto these new Records of Operation forms (WQMD series). Facilities which have not yet been issued a permit should continue the testing currently performed and report the results on these new forms.

A pad of the new form for your facility is enclosed. If it is not the correct form, notify the Department of Environmental Quality, Water Quality Management Division, 3920 Delaware Ave., P. O. Box 3326, Des Moines, Iowa 50316 (telephone 515-265-8134, Ext. 299).

Sincerely,

WATER QUALITY MANAGEMENT DIVISION

Robert L. Kellogg Surveillance & Compliance Section

RLK:pls

September 1975

TO: ALL WASTE DISPOSAL SYSTEM OWNERS AND WASTEWATER TREATMENT PLANT OPERATORS

RE:. Records of Operation Forms

Records of Operation forms have previously been mailed to DEQ Regional Offices. In the future, Records of Operation should be mailed directly to the Central Office, at the following address:

Department of Environmental Quality Water Quality Management Division 3920 Delaware Avenue P. O. Box 3326 Des Moines, Iowa 50316

Information from your records of operation forms will be entered into a computer by a Central Office staff. After this initial handling by Central Office staff, the records of operation will be mailed to the Regional office, where they will be reviewed and kept on file.

You are encouraged to continue to communicate with Regional staff about operation problems by filling out the remarks section on the back of the new forms. This new policy will result in an approximate two-week lag between submission of your reports and review by Regional Staff, therefore, any immediate problems you may have should be communicated directly to Regional Staff.

Sixteen address stickers are enclosed with the Central Office address typed on them. An address sticker should be attached to the records of operation forms or to a mailing envelope containing the records of operation forms, and mailed by the 10th of the month following the report period.

Several questions have been raised regarding entering data on the new records of coperation forms. I would like to reiterate the following points:

- 1. If you have not yet received your Iowa Operation Permit you are not required to do any testing beyond what you are currently performing. The only change is that the information must be entered on the new forms rather than the old. The sampling referred to in the instruction sheets are recommended sampling only.
- 2. If you have received your Iowa Operation Permit, you must enter at a minimum the results of required testing specified in your permit.

 Required testing for parameters not included on the form should be entered on supplementary form, WQMD I. All testing required on significant industrial contributors should be entered on a special form WGMD III. If you do not have the proper forms, notify this office and we will provide you with the necessary forms.
- 3. All columns on all forms <u>must</u> be totaled and averaged at the bottom of the page in the appropriate spaces. Credit for submission of your records of operation will not be given if this is not done.



4. It is imperative that the correct facility number and name be entered in the upper right-hand corner. The facility number has seven digits. The first two digits of this number are the same as your county number. If you do not know your facility number, contact this office and we will provide you with it.

If you have any questions regarding submission of your reports, please contact the Department of Environmental Quality by mail or call 515-265-8134, Ext. 299.

Sincerely,

WATER QUALITY MANAGEMENT DIVÍSION

Richard F. Rankin, P.E., Chief Surveillance & Compliance Section

OPERATION PERMIT SYSTEM

26

INDUSTRIAL/COMMERCIAL CONTRIBUTOR MONITORING REPORT

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State of lown Department of Environmental Quality ERIC Water Quality Management Division Form WQMD III

Signature

Title



STATE OF IOWA
DEPARTMENT OF ENVIRONMENTAL QUALITY . WATER QUALITY MAYAGEMENT DIVISION

OPERATION PERMIT SYSTEM MONTHLY MONITORING REPORT

PLANT NAME PERMIT NUMBER

DISCHARGE SERIAL NUMBER

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EXECUTIVE OFFICER OR AGENT

28

STATE OF IOWA ...
DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY MANAGEMENT DIVISION

OPERATION PERMIT SYSTEM MONTHLY MONITORING REPORT

FACILITY NAME	 		 	,	
FACILITY NUMBER	 	<u>. </u>	 	_	

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WASTE STABILIZATION LAGO

IOWA DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY MANAGEMENT DIVISION

Instructions for Submitting Records of Operation for Waste Disposal Systems

FORM WOMD V - Waste Stabilization Lagoon

The Operation Permit issued for your facility specified the analyses and sampling frequencies which <u>must</u> be monitored. Your report must contain as a minimum the data required in your permit. Any report which does not contain the required data will be considered <u>incomplete</u>. However, the report must be submitted even if it is incomplete and steps must be taken by the reporting entity to insure that the data become available for subsequent reports.

It is recommended that additional monitoring (over and above the required) be performed when the routine monitoring indicates that it is needed. All additional data must be reported on this monthly monitoring report form.

Some permits will require analyses not included on this report form. A supplementary report form, Form WQMD I, is available for submission of these required data. It may also be used to report results of any additional tests being performed which are not included on this form. For Form WQMD I, the sampling location, test name and unit of measurement must be entered at the top of the column by the analyst.

All municipalities are required by their permit to submit to the Department data on significant industrial/commercial contributors to their wastewater disposal system. These industrial/commercial contributors are specified in your permit. A special form, WQMD III, is available for reporting these required data.

All Records of Operation report forms must be sent to the DEQ Regional Office in your area by the 10th day of the month following the month being reported.

The report form tablet contains 25 sheets. Your Record of Operation should be completed in duplicate, and a copy retained for your files. Reorder report forms at least two (2) months in advance to insure an adequate supply.

The report form is perforated and it is intended to be used as an envelope for mailing. Follow the instructions for folding on the back of the report form and mail to DEQ at the above address.

Should there be any questions concerning these instructions, please contact the Iowa Department of Environmental Quality, Central Office, in Des Moines, Iowa, (telephone #515-265-8134), or the DEQ regional office in your area.

Record information and monitoring results in the proper spaces and columns and in the proper units of measurement as outlined below. If the instructions are not carefully followed, proper credit for operation of your system and submission of your "Records of operation" cannot be given. (The sampling frequencies referred to are recommended sampling frequencies. Your permit specifies the minimum required sampling frequency.)

- 1. Plant or Facility Name The name of your Facility is entered in the upper right-hand corner.
- Plant or Facility Number The number of your Facility is entered in the upper right-hand corner.
- Discharge Serial Number The discharge serial number (i.e., 001, 002)
 for the appropriate discharge point is entered in the upper right-hand corner. (Consult your permit for the proper facility and serial number.)
- 4.' Reporting Period The month and year for which the report is being submitted is entered in the top-center of the page.
- 5. Executive Officer or Agent in Direct Responsibility The signature of the official responsible for submission of the report is entered in the lower right-hand corner.
- 6. <u>Title of Executive Officer or Agent</u>. The title or position of the official submitting the report is entered in the lower right-hand corner below the signature.
- 7. Receiving Stream Flow Record the receiving stream flow according to permit requirements for each day a discharge occurs.
- 8. Precipitation Record any precipitation for your area in inches on the appropriate dates. At the end of the month, record the total precipitation.
- 9. Series or Parallel Daily, record the mode of operation with an "S" for series and a "P" for parallel. Enter the number of cells in each mode of operation after the S or P. For example, a two cell lagoon with both cells operated in series should be recorded as "S-2". A three cell lagoon with one cell in series and two cells in parallel operation should be recorded as "S-1, P-2".
- 10. <u>By-Passed</u> For each occurrence, record the volume of sewage by-passed in 1,000's of gallons. At the end of the month, determine and record the total and maximum values.
- 11. <u>Influent Flow</u> Daily, record the total flow of raw sewage influent in 1,000's of gallons per day. At the end of the month, record the average maximum, and minimum flows. For example, a flow of 123,000 gpd should be recorded as 123.

- 12. <u>Influent Temperature</u> From a grab sample, record the temperature in degrees Fahrenheit (OF) of the raw sewage influent to the plant. At the end of the month, record the average, maximum, and minimum values.
- 13. <u>Influent Biochemical Oxygen Demand (BOD)</u> Twice weekly, collect a grab or composite sample of the raw sewage influent and record the 5-day BOD to the nearest 1 mg/l. At the end of the month determine and record the average and maximum values.

Pounds of BOD can be calculated from the flow and the concentration of BOD, as below:

- A lbs/day BOD = Flow (in millions of gallons per day) x 8.34 x mg/l BOD 🚁
 - 14. <u>Influent Suspended Solids</u> Twice weekly, collect a grab or composite sample of the raw sewage influent and record suspended solids result to the nearest 1 mg/l. At the end of the month, determine and record the average and maximum values.
 - 15. <u>Influent Ammonia Nitrogen</u> Twice weekly, using a grab or composite sample of the raw sewage influent, and record the result to the nearest 1 mg/l. At the end of the month, determine and record the average and maximum values.
 - 16. <u>Influent pH</u> Twice weekly, using a grab sample, record the pH of the raw sewage influent to the nearest 0.1 pH unit. At the end of the month, determine and record the maximum and minimum values.
 - 17. Cell Contents (when storing) Weekly, record the depth of each cell in feet and collect a grab sample from each cell for dissolved oxygen determinations. Take the sample at approximately the same time each day between the hours of 11:00 a.m. and 2:00 p.m. Record the dissolved oxygen to the nearest 1 mg/1. At the end of the month, determine and record the average, maximum and minimum dissolved oxygen values, and the average, maximum and minimum cell depth.
 - 18. Cell Contents Prior to Drawdown Following a period of storage for more than six weeks, a grab sample of the lagoon cell contents must be collected at least two weeks prior to an anticipated discharge. This sample must be analyzed for 5-day BOD, ammonia nitrogen, pH and dissolved oxygen. It is recommended that suspended soldis and fecal coliform tests also be run. Record the results of these tests in the proper columns and in the proper units of measurement. Where the analyses indicate the wastewater quality does not meet the effluent limitations specified in the permit, storage must be continued until further analyses indicate the wastewater quality is satisfactory for discharge.
- 19. Effluent Flow Record the total daily flow of wastewater dishcarged in 1,000's of gallons per day. At the end of the month determine and record the average, maximum and minimum flows.

20. Effluent Biochemical Oxygen Demand (BOD) - Collect a grab or composite sample of the discharge twice weekly throughout the period of discharge. (For example, if you are discharging everyday for 3 weeks, 6 samples must be collected and analyzed.) Record the 5-day BOD results to the nearest 1 mg/l. At the end of the month, determine and record the average and maximum values.

Pounds of BOD can be calculated from the flow and the concentration of BOD, as below:

lbs/day BOD = Flow (in millions of gallons/day) $x \cdot 8.34 \times mg/l$ BOD

21. Effluent Suspended Solids - Collect a grab or composite sample of the discharge. Record the suspended solids results to the nearest 1 mg/l. At the end of the month, determine and record the average and maximum values.

Pounds of suspended solids can be calculated from the flow and the concentration of suspended solids, as below:

lbs/day Suspended Solids = Flow (in millions of gallons/day) \times 8.34 \times mg/l suspended solids.

22. Effluent Ammonia Nitrogen - Collect a grab or composite sample of the discharge twice weekly throughout the period of discharge. Record the ammonia nitrogen results to the nearest 1 mg/l. At the end of the month, determine and record the average and maximum values.

Pounds of ammonia-nitrogen can be calculated from the flow and the concentration of ammonia-nitrogen, as below:

lbs/day NH3 - N = Flow (in millions of gallons/day) x 8.34 x mg/l NH3 - N

- 23. Effluent pH Collect a grab sample of the discharge twice weekly throughout the period of discharge. Record the pH results to the nearest .1 pH unit. At the end of the month, determine and record the maximum and minimum values.
- 24. Effluent Dissolved Oxygen Collect a grab sample twice weekly throughout the period of discharge at approximately the same time each day between the hours of 11:00 a.m. and 2:00 p.m. Record the dissolved oxygen results to the nearest .1 mg/l. At the end of the month, determine and record the maximum, minimum and average values.
- 25. Effluent Fecal Coliform Weekly, using a grab sample, record the fecal coliform count of the discharge to the nearest 10 organisms per 100 ml. At the end of the month, determine and record the average, maximum and minimum values.
- 26. Effluent Residual Chlorine (when chlorinating) Twice weekly, using a grab sample, record the residual chlorine content of the effluent from the plant to the nearest 0.1 mg/l. At the end of the month, determine and record the average, maximum, and minimum values.

27. <u>Influent and Effluent 24-Hour Sample Collections</u> - Special spaces are provided at the bottom of the form for recording sampling results required by both the DEQ (STate) and the EPA (Federal).

Influent 24-hour composites must be collected and analyzed for BOD; suspended solids, and ammonia nitrogen according to permit requirements. Effluent 24-hour composites must be collected according to permit requirements during periods of discharge and analyzed for BOD, suspended solids, and ammonia nitrogen. A gråb sample of the effluent must also 🔹 be collected at the same time as the 24 hour composite and analyzed for / fecal coliform. These data and the flow measurements for the day the 24-hour samples were collected must be recorded in the spaces provided at the bottom of the form. Flow should be entered as millions of gallons per day. For example, 123,000 gallons per day should be recorded as .123 MGD. (Important: This is a different unit than is recorded in the column headed "Flow". The flow must be reported in million gallons per a day in order to accurately compute pounds from the formula below.) BOD, suspended solids and ammonia nitrogen must be recorded as mg/l and pounds per day (1bs/day). Pounds per day can be computed from the daily flow at the time of sample collection and the concentration of the parameter in mg/l as below:

lbs/day = Flow (in millions of gallons) $\times 8.34 \times mg/1$

The results of the effluent fecal coliform analysis should be entered in the appropriate space to the nearest 10 organisms per 100 ml.

IMPORTANT

MAKE ALL ENTRIES WITH INDELIBLE PENCIL FOR A MORE PERMANENT RECORD.

ALL ENTRIES MUST BE LEGIBLE

THESE RECORDS OF OPERATION MUST BE SUBMITTED REGARDLESS OF THE AVAILABILITY OF THE REQUIRED DATA.

MAINTAIN A COPY OF THIS REPORT FOR YOUR RECORDS.

STATE OF IOWA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY MANAGEMENT DIVISION

OPERATION PERMIT SYSTEM MONTHLY MONITORING REPORT

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TITLE

FORM WOMD-VI TRICKLING FILTER



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IOWA DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY MANAGEMENT DIVISION

Instructions for Submitting Records of Operation for Waste Disposal Systems

FORM WQMD VI - Trickling Filter

The Operation Permit issued for your facility specified the analyses and sampling frequencies which must be monitored. Your report must contain as a minimum the data required in your permit. Any report which does not contain the required data will be considered incomplete. However, the report must be submitted even if it is incomplete and steps must be taken by the reporting entity to insure that the data become available for subsequent reports.

It is recommended that additional monitoring (over and above the required) be performed when the routine monitoring indicates that it is needed. All additional data must be reported on this monthly monitoring report form.

Some permits will require analyses not included on this report form. A supplementary report form, Form WQMD I, is available for submission on these required data. It may also be used to report results of any additional tests being performed which are not included on this form. For Form WQMD I, the sampling location, test name and unit of measurement must be entered at the top of the column by the analyst.

All municipalities are required by their permit to submit to the Department data on significant industrial/commercial contributors to their wastewater disposal system. These industrial/commercial contributors are specified in your permit. A special form, WQMD III, is available for reporting these required data.

All Records of Operation report forms must be sent to the DEO Regional Office in your area by the 10th day of the month following the month being reported.

The report form tablet contains 25 sheets. Your Record of Operation should be completed in duplicate, and a copy retained for your files. Reorder report forms at least two (2) months in advance to insure an adequate supply.

The report form is perforated and it is intended to be used as an envelope for mailing. Follow the instructions for folding on the back of the report form and mail to DEQ at the above address.

Should there be any questions concerning these instructions, please contact the Iowa Department of Environmental Quality, Central Office, in Des Moines, Iowa, (telephone #515-265-8134), or the DEQ regional office in your area.

Record information and monitoring results in the proper spaces and columns and in the proper units of measurement as outlined below. If the instructions are not carefully followed, proper credit for submission of your "Records of Operation" cannot be given. (The sampling frequencies referred to are recommended sampling frequencies. Your permit specifies the minimum required sampling frequency.)



- 1. <u>Plant or Facility Name</u> The name of your Facility is entered in the upper right-hand corner.
- 2. <u>Plant or Facility Number</u> The number of your Facility is entered in upper right-hand corner.
- 3. <u>Discharge Serial Number</u> The discharge serial number (i.e. 001, 002) for the appropriate discharge point is entered in the upper right-hand corner. (Consult your permit for the proper facility and serial number.)
- 4. Reporting Period The month and year for which the report is being submitted is entered in the top-center of the page.
- 5. Executive Officer or Agent in Direct Responsibility The signature of the official responsible for submission of the report is entered in the lower right-hand corner.
- 6. <u>Title of Executive Officer or Agent</u> The title or position of the official submitting the report is entered in the lower right-hand corner below the signature.
- 7. Receiving Stream Flow Report the receiving stream flow in cfs according to permit requirements.
- 8. Precipitation Record any precipitation for your area in inches on the . A appropriate dates. At the end of the month, record the total precipitation.
- 9. Temperature From a grab sample, record the daily temperature in degrees
 Fahrenheit (° F) of the raw sewage inflyent to the plant. At the end of the
 month, record the average, maximum, and minimum values.
- 10. Total Flow Daily, record the total flow of raw sewage influent in 1,000's of gallons per day. At the end of the month, determine and record the average, maximum and minimum flows. For example, a flow of 123,000 gpd should be recorded as 123.
- 11. By-Passed For each occurrence, record the volume of sewage by-passed in 1,000's of gallons. At the end of the month, determine and record the total and maximum values.
- 12. Recirculated Daily, record the volume of sewage recirculated in 1,000's of gallons. At the end of the month, determine and record the average value.

- 24. Suspended Solids Daily, using a grab or composite sample, record the suspended solids content of the raw sewage influent and the final effluent to the nearest 1 mg/l. Use the formula for pounds BOD/day, substituting mg/l.suspended solids for mg/l BOD, to compute the pounds per day suspended solids. Record these values in the appropriate columns. Daily, using a grab sample, record the suspended solids content of the primary effluent and the trickling filter effluent to the nearest 1 mg/l. At the end of the month, determine and record the average and maximum values for all suspended solids columns.
- 25. Settleable Solids Daily, using a grab sample, record the settleable solids content of the raw sewage influent, primary effluent, filter effluent, and final effluent to the nearest 0.1 mg/l. At the end of the month, record the average values.
- 26. Ammonia-Nitrogen Twice weekly, using a grab sample, record the ammonia-nitrogen content of the influent and effluent to the nearest 1 mg/l.

Use the following formula to compute pounds of ammonia per day, and enter the values in the appropriate columns.

lbs. $NH_3-N/day = Flow$ (in millions of gallons) x 8.34 x mg/l NH_3-N

At the end of the month, determine and record the maximum and average values for all ammonia-nitrogen columns.

- 27. pH Daily, using a grab sample, record the pH of the raw sewage influent and final effluent to the nearest 0.1 pH unit. At the end of the month, record the maximum and minimum values.
- 28. DO Effluent Daily, using a grab sample, record the dissolved oxygen content of the effluent from the plant to the nearest 0.1 mg/l. If a polishing lagoon is involved, take the sample at approximately the same time each day between the hours of 11:00 a.m. and 2:00 p.m. At the end of the month, determine and record the average, maximum and minimum values.
- 29. Fecal Coliform Using a grab sample, record the fecal coliform count of the effluent from the plant to the nearest 10 organisms per 100 ml. At the end of the month, determine and record the average and maximum values.
- 30. Residual Chlorine When Chlorinating Daily, using a grab sample, record the residual chlorine content of the effluent from the plant to the nearest 0.1 mg/l. At the end of the month, determine and record the average, maximum, and minimum values.
- 31. Other This space may be filled in by the operator with additional tests and results which may be run at the plant.
- 32. INFLUENT and EFFLUENT 24-Hour Sample Collections Special spaces are provided at the bottom of the form for recording sampling results required by both the DEQ (State) and the EPA (Federal). Influent 24-hour composites must be collected and analyzed for BOD, suspended solids, and ammonia nitrogen according to permit requirements. Effluent 24-hour composites must be collected according

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to permit requirements and analyzed for BOD, suspended solids, and ammonia nitrogen. A grab sample of the effluent must also be collected at the same time as the 24-hour composite and analyzed for fecal coliform. These data must be recorded in the spaces provided at the bottom of the form. Flow must be measured at the same time the 24-hour composites are collected and entered as millions of gallons per day. For example, 123,000 gallons per day should be recorded as .123 MGD. (Important: This is a different unit than is recorded in the column headed "Flow". The flow must be reported here in million gallons per day in order to accurately compute pounds from the formula below.). BOD, suspended solids, and ammonia nitrogen must be recorded as mg/l and pounds per day (lbs/day). Pounds per day can be computed from the daily flow at the time of sample collection and the concentration of the parameter in mg/l as below:

lbs/day = Flow (in millions of gallons) $\times 8.34 \times mg/1$

The results of the effluent fecal coliform analysis should be entered in the appropriate space to the nearest 10 organisms per 100 ml.

IMPORTANT

MAKE ALL ENTRIES WITH INDELIBLE PENCIL FOR A MORE PERMANENT RECORD.

ALL ENTRIES MUST BE LEGIBLE

THESE RECORDS OF OPERATION MUST BE SUBMITTED REGARDLESS OF THE AVAILABILITY OF THE REQUIRED DATA.

MAINTAIN A COPY OF THIS REPORT FOR YOUR RECORDS.

STATE OF IOWA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY MANAGEMENT DIVISION

OPERATION PERMIT SYSTEM MONTHLY MONITORING REPORT

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FLOW _____MILLION GALLONS/DAY [74324]

BODs _____MG/L ____LBS/DAY [76024]

SUSPENDED SOLIDS _____MG/L ____LBS/DAY [74024]

AMMONIA MITROGEN _____MG/L ____LBS/DAY [70424]

 FFI UENT 24 FROUR SAMPLE COLLECTION [000]

 FECAL COLIFORM ______ORGANISMS/1DD ML [78324]

 BOD₅ ______MG/L _____LBS/DAY [78024]

 SUSPENDED SOLIDS ______MG/L _____LBS/DAY [74024]

 AMMONIA NITROGEN ______MG/L _____LBS/DAY [70424]

SIGNATURE OF EXECUTIVE OFFICER OR AGENT
TITLE
FORM WOMD-VII ACTIVATED SLUDGE



IOWA DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY MANAGEMENT DIVISION

Instructions for Submitting Records of Operation for Waste Disposal Systems

FORM WQMD VII - Activated Sludge

The Operation Permit issued for your facility specified the analyses and sampling frequencies which must be monitored. Your report must contain as a minimum the data required in your permit. Any report which does not contain the required data will be considered incomplete. However, the report must be submitted even if it is incomplete and steps must be taken by the reporting entity to insure that the data become available for subsequent reports.

It is recommended that additional monitoring (over and above the required) be performed when the routine monitoring indicates that it is needed. All additional data must be reported on this monthly monitoring report form.

Some permits will require analyses not included on this report form. A supplementary report form, Form WQMD I, is available for submission of these required data. It may also be used to report results of any additional tests being performed which are not included on this form. For Form WQMD I, the sampling location, test name and unit of measurement must be entered at the top of the column by the analyst.

All municipalities are required by their permit to submit to the Department data on significant industrial/commercial contributors to their wastewater disposal system. These industrial/commercial contributors are specified in your permit. A special form, WQMD III, is available for reporting these required data.

All Records of Operation report forms must be sent to the DEQ Regional Office in your area by the 10th day of the month following the month being reported.

The report form tablet contains 25 sheets. Your Record of Operation should be completed in duplicate, and a copy retained for your files. Reorder report forms at least two (2) months in advance to insure an adequate supply.

The report form is perforated and it is intended to be used as an envelope for mailing. Follow the instructions for folding on the back of the report form and mail to DEQ at the above address.

Should there be any questions concerning these instructions, please contact the Ibwa Department of Environmental Quality, Central Office, in Des Moines, Iowa, (telephone #515-265-8134), or the DEQ regional office in your area.



Record information and monitoring results in the proper spaces and columns and in the proper units of measurement as outlined below. If the instructions are not carefully followed, proper credit for submission of your "Records of Operation" cannot be given. (The sampling frequencies referred to are recommended sampling frequencies. Your permit specifies the minimum required sampling frequency.)

- 1. Plant or Facility Name The name of your Facility is entered in the upper right-hand corner.
- 2. <u>Plant or Facility Number</u> The number of your Facility is entered in the upper right-hand corner.
- 3. <u>Discharge Serial Number</u> The discharge serial number (i.e., 001, 002) for the appropriate dishcarge point is entered in the upper right-hand corner. (Consult your permit for the proper facility and serial number.)
- 4. Reporting Period The month and year for which the report is being submitted is entered in the top-center of the page.
- 5. Executive Officer or Agent in Direct Responsibility The signature of the official responsible for submission of the report is entered in the lower right-hand corner.
- 6. <u>Title of Executive Officer of Agent</u> The title or position of the official submitting the report is entering the lower right-hand corner below the signature.
- 7. <u>Precipitation</u> Record any precipitation for your area in inches on the appropriate dates.
- 8. <u>Temperature</u> From a grab sample, record the daily temperature in degrees Fahrenheit (OF) of the raw sewage influent to the plant. At the end of the month, record the average, maximum, and minimum values.
- 9. Total Flow Daily, record the total flow of raw sewage influent in 1,000's of gallons per day. At the end of the month, determine and record the average, maximum and minimum flows. For example, a flow of 123,000 gpd should be recorded as 123.
- 10. By-Passed For each occurrence, record the volume of sewage by-passed in 1,000's of gallons. At the end of the month, determine and record the total and maximum values.
- 11. Influent pH Daily, using a grab sample, record the pH of the raw sewage influent to the nearest 0.1 pH unit. At the end of the month, determine and record the maximum and minimum values.
- 12. Influent Settleable Solids Daily, collect a grab sample of the raw sewage influent and record settleable solids to the nearest 0.1 ml/l. At the end of the month, determine and record the average value.
- 13. <u>Influent Suspended Solids</u> Daily, collect a grab or composite sample of the raw sewage influent and record suspended solids result to the nearest 1 mg/l. Use the following formula to compute pounds suspended solids per day, and enter in the designated column.

lbs. susp. solids/day = flow (in millions of tal/day) x 8.34 x mg/l suspended solids



At the end of the month, determine and record the average and maximum values.

14. Influent Biochemical Oxygen Demand (BOD) - Daily, collect a grab or composite sample of the raw sewage influent and record the 5-day BOD to the nearest 1 mg/l. Pounds of BOD can be calculated from the flow and the concentration of BOD, as below:

lbs/day BOD = Flow (in millions of gallons per day) \times 8.34 \times mg/] BOD

At the end of the month, determine and record the average and maximum values.

- 15. <u>Influent Ammonia Nitrogen</u> Daily, using a grab or composite sample of the raw sewage influent, record the result to the nearest 1 mg/l. At the end of the month, determine and record the average and maximum values.
- 16. Gallons Pumped-Sludge Daily, record the gallons of sludge pumped from the primary tank or tanks. At the end of the month, record the average value.
- 17. Sludge % Total Solids Daily, using a grab sample, record the % total solids of the sludge to the nearest 1%. At the end of the month, determine and record the average and maximum values.
- 18. Sludge % Volatile Solids Daily, using a grab sample, record the % volatile, solids of the sludge to the nearest 1%. At the end of the month, determine and record the average and maximum values.
- 19. Digester Temperature Daily, record temperature of the digester (OF). At the end of the month, determine and record the maximum and minimum values.
- 20. <u>Digester pH</u> Daily, record the pH of the digesting sludge, using a grab sample, to the nearest 0.1 pH. At the end of the month, determine and record the maximum and minimum pH.
- 21. Digester Volatile Acids Daily, using a grab sample, record the volatile acid content of the digester sludge to the nearest 10 mg/l. At the end of the month, determine and record the maximum and minimum values.
- 22. <u>Digester Alkalinity</u> Daily, using a grab sample, record the alkalinity of the digester sludge to the nearest 1 mg/l. At the end of the month, determine and record the maximum and minimum values.
- 23. <u>Digested Sludge % Total Solids</u> Using a grab sample, record the % total solids of the digested sludge to the nearest 1%. At the end of the month, determine and record the maximum, minimum and average values.
- 24. <u>Digested % Volatile Solids</u> Using a grab sample, record the % volatile. solids of the digested sludge to the nearest 1%. At the end of the month, determine and record the maximum, minimum and average values.
- Digested Sludge Disposal Volume Enter the volume of digested sludge for each day a disposal was made. This should be reported in pounds/day, gallons perday, or cubic feet per day. The unit must be entered into the space provided in the column heading. At the end of the month, enter the total gallons, pounds, or cubic feet for that month.



- 26. Effluent Residual Chlorine (when chlorinating) Twice weekly, using a grab sample, record the residual chlorine content of the effluent from the plant to the nearest 0.1 mg/l. At the end of the month, determine and record the average, maximum, and minimum values.
- 27. Receiving Stream Flow Record the receiving stream flow in cfs according to permit requirements.
- 28. INFLUENT AND EFFLUENT 24-Hour Sample Collections Special spaces are provided at the bottom of the form for recording sampling results required by both the DEQ (State) and EPA (Federal).

Influent 24-hour composites must be collected and analyzed for BOD, suspended solids, and ammonia introgen according to permit requirements. Effluent 24-hour composites must be collected according to permit requirements during periods of discharge and analyzed for BOD, suspended solids, and ammonia nitrogen. A grab sample of the effluent must also be collected at, the same time as the 24-hour composite and analyzed for fecal coliform. These data must be recorded in the spaces provided at the bottom of the form. Flow must be measured at the same time the 24-hour composites are collected and entered as millions of gallons per day. For example, 123,000 gallons per day should be recorded as .123 MGD. (Important: This is a different unit than is recorded in the column headed "Flow". The flow must be reported here in million gallons per day in order to accurately compute pounds from the formula below.) BOD, suspended solids, and ammonia nitrogen must be recorded as mg/l and pounds per day (lbs/day). Pounds per day can be computed from the daily flow at the time of sample collection and the concentration of the parameter in mg/l as below:

lbs/day = Flow (in millions of gallons) x 8.34 x mg/1

The results of the effluent fecal coliform analysis should be entered in the appropriate space to the nearest 10 organisms per 100 ml.

IMPORTANT

MAKE ALL ENTRIES WITH INDECIBLE PENCIL FOR A MORE PERMANENT RECORD.

ALE ENTRIES MUST BE LEGIBLE.

THESE RECORDS OF OPERATION MUST BE SUBMITTED REGARDLESS OF THE AVAILABILITY OF THE REQUIRED DATA.

MAINTAIN A COPY OF THIS REPORT FOR YOUR RECORDS.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through June 30, 1977, permittee is authorized to discharge from outfall Serial Number 001.

Such discharges shall be limited and monitored by the permittee as specified:

	<u>E</u>	ffluent Limitati	ons .	*	Min Monitoring	imum Requiremen	its
Wastewater Parameter	kg/day (lbs/day) Daily Avg.	Max.	Other Units Daily Avg.	(Specify) Max.	Measurement Frequency	Sample Type	Sample *Location*
***Biochemical Oxygen Demand (5-day)	57 (125)	85 (1,88) .	•	45-mg/1	quarterly	composite	1,2
EQAP *Suspended Solids	57 (125)	85 (188)	30 mg/1	45 mg/1	monthly	grab composite	2)2
***Flow - m³/day (MGD) ***PH Temperature/ Settleable Solids Dissolved Oxygen Ammonia Nitrogen (asN	6.5-9.0)	↑ (not to be	1892 (.500) averaged) 	2839 (.750)	quarterly daily daily daily daily daily	grab grab grab grab composite	1 2,4 1,4 1,2,3 2

There shall be no discharge of floating or settleable substances in other than trace amounts,

^{*}Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): (1) raw sewage influent to the treatment plant, (2) final effluent from the treatment plant, (3) wastewater flow following primary clarification, (4) digestion contents.

^{**}Sample submitted for the Effluent Quality Analysis Program (EQAP) conducted in accordance with Chapter 18 of the Rules of the Iowa Department of Environmental Quality (1973 I.D.R.).

^{****}Only these monitoring data shall be summarized and reported to the Environmental Protection Agency.

LONGITUDE

DAY

INSTRUCTIONS

Provide dates for period covered by this report is apaces marked "REPORTING PERIOD".

Enter reported minimum, everage and maximum values under "QUANTITY" and "CONCENTRATION" in the units specified for each persuader as appropriate Do not enter volues in bours continuing asterials. "AVERAGE" is everage computed ever actual time discharge to operating, "MAXIMUM" and "HINDUM" are extreme reliefe absenced during the reporting period.

Specify the number of seal-yard samples that exceed the mentiums (and/or minimum as appropriate) permit conditions in the columns labeled "No. Ex." If some, eater "O".

Specify forements of seal-yard forements are marked and the date of the "PATTILL operation".

* Specify requested the second every 7 days.) If continuous enter "CONT."

Specify assume type ("grab" or "___ hr. essepoilts") so applicable. If frequency was continuous, enter "NA".

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INSTRUCTIONS

Provide dates for period covered by this report in spaces marked "REPORTING PERIOD".

Enter reported minimum, average and maximum values under "QUANTITY" and "CONCENTRATION" in the units specified for such persenter as appropriate. Do not enter values in bettes containing asterists. "AVERAGE" is average computed ever actual time discharge is operating. "MAXIMUM" are extreme values observed dening the reporting point.

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Specify frequency of analyzed cock parameter as No. analyzed/\(\text{Maximum}\) analyzed performed every 7 days.) If continuous enter "CONT."

Specify sample type ("grab" or "____hr. composite") as applicable. If frequency was continuous, enter "NA".

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- PARAMETER		(3 card only) (1%) equ	QUANT	19441)		41-41	(4 cord only) - 130-49	CONCENT				PREQUENCY	SAMPLE
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BOD 3	REPORTED	51	58	65		0	28	30.	33		0	•	8 hr.com
Final Effluent	PERM-7 COMBITION		50	75.	lbs/day	$\overline{}$		30	45	Mg/L		1/30	comp.
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These instructions are only if you sample and test ONE 24-hour composit per month on raw and final, but also sample and test either 6-hour composit or grab samples.

I. If your monthly record sheet is not legible, then transfer to a new sheet and mark legibly.

U. On your monthly record sheet (file copy) total all columns except:

WQMD V Columns 1, 3, 11, 23, 19, 39, 41

WQMD VI Columns, 1, 11, 12, 13, 37, 38, 40

WQMD VII Columns, 5, 16, 17, 18, 38, 39, 42

Record all totals in appropriate blocks even though some are blacked out.

III. Calculate averages for all columns:

Total value = Average
Number of tests
or recordings

Except columns:

- IV. Place maximum value (largest number) in that column in the maximum block.
 All blocks in Form WQMD V, VI, & VII are appropriately clear.
- V. Place minimum value (lowest.number) in that column in the minimum block. All blocks in Form WQMD V, VI, VII are appropriately clear.
- VI. RECORD ALL VALUES OF TESTS OF THE 24-HOUR COMPOSIT IN THE APPROPRIATE SECTIONS IN BOTTOM OF FORMS.
 - 1. The results are obtained in mg/l-either from the commercial lab or plant lab.
 - Do not forget to record the flow of the day you composited the sample to be tested_in MGD. Total flow in 1000's GPD = 1000 = MGD.
 - 3. This formula: $lbs/day = 8.34 \times mg/l \times Flow$ (MGD) is used to calculate the lbs/day of BOD_5 suspended solids and ammonia nitrogen.
- VII. On form to Lowa DEQ make sure that only open blocks are filled. Copy these from file copy.

- VIII. If you make any variations to permit testing frequency, report what you have done on back of form that goes to Des Moines. Use extra pages (8½ x 11) if you have to.
 - IX. Keep copies of all communications, form, and letters that you send to DEQ.
 - X. MAKE SURE THAT THE:
 - 1. Month
 - 2. Year·
 - 3. Facility Name
 - 4. Facility Number
 - 5. Discharge Serial Númber
 - 6. Signature
 - 7. Title

ARE ENTERED LEGIBLY AND CORRECTLY IN THE RIGHT PLACE.

STATE MONITORING REPORT

These instructions are only if you sample on a 24-hour composit basis, for required tests or if you do not composite on a 24-hour basis, but composit on a 6 or 8-hour basis and the testing frequency is more than one/month.

- I. If your monthly record sheet is not legible, then transfer to a new sheet and mark legibly.
- II. On your monthly record sheet (file copy) total all columns except:

WQMD V Columns 1, 3, 11, 23, 29, 39, 41/

WQMD VI Columns 1, 11, 12, 13, 37, 38, 40

Record all totals in appropriate blocks even though some are blacked out.

III. Calculate averages for all columns:

Total value = Average
Number of tests
or recordings

Except columns:

WOMD V Columns 1, 2, 3, 4, 11, 23, 29, 39, 41

WQMD VI Columns 2, 5, 11, 12, 13, 32, 38

WQMD VII Columns 4, 5, 16, 17, 18, 38, 39, 42

- IV. Place maximum value (largest number) of that column in the maximum blocks. All blocks in Form WQMD V, VI, & VII are appropriately clear.
- .V. Place minimum value (lowest number) in that column in the minimum block.

WQMD V Columns 7, 8, 9, 33, 34, 35, 36

WQMD VI Columns 17, 18, 21, 22, 23, 24, 27, 28

WQMD VII Columns 7, 8, 9, 10, 30, 31, 32, 33, 39

Record value even though block is blacked out.

VI. Fill fecal coliform space in effluent (24-hour sample collection) section only if you test once per month.

IGNORE ALL OTHER SPACES AT BOTTOM OF FORM BOTH INFLUENT AND EFFLUENT.

VII. On form to lowa DEQ make sure that only <u>open blocks</u> are filled. Copy these from file copy.

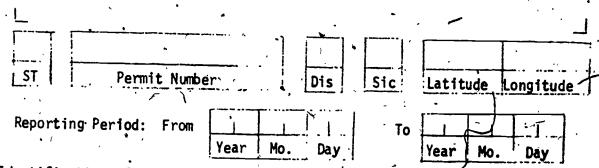
- If you make any variations to permit testing frequency, report what you have done on back of form that goes to Des Moines. Use extra pages (8's x 11) if you have to.
 - Keep copies of all communications, form, and letters that you send to DEQ.
 - 'X. 'MAKE SURE THAT THE:
 - Month
 - 2. Year

 - 3. Facility Name 4. Facility Number
 - Discharge Serial Number
 - Signature
 - Title

ARE ENTERED LEGIBLY AND CORRECTLY IN THE RIGHT PLACE

EFFLUENT MONITORING REPORT

EPA FORM 3320-1



- A. Identification of permit holder and discharge
 - 1. Enter name and address of permit holder.
 - a. Space is provided in top left of form.
 - 2. Enter (I A) for Iowa in block labeled "St.".
 - 3. Enter permit number in block labeled permit number.
 - a. The number is your Federal Number not your State Facility Number.
 - 4. Enter discharge number in "dis" block.
 - a. Normally 001 is used, unless there is more than one discharge point, which will be indicated in the permit.
 - 5. Enter dischärge code
 - a. 4952 is used for municipal discharges.
 - b. For industrial discharges, the permit will indicate so.
 - -6. Enter latitude and longitude of discharge.
 - a. Make an effort to locate the latitude and longitude of the discharge. (Old records, engineering firm, Iowa Geological Survey.)
 - b. If unable to locate, omit by placing xxx in block.
 - 7. Enter reporting period in appropriate blocks.
 - Remember that a quarterly report is for 3 consecutive months.

✓ D.	. 31	tarting	quarterly	report	W111	be in	die	cated	.in-	the	permit.	
, –												
- T A I	1	00000			:			1 1	. 1			

MA	0022012	001	4952		, ,	,
<u> </u>	Permit Number	 Dis	Sic	٠	Latitude	Longitude

Reporting Period: From 7 5 0 5 0 1 1

Year Mo. Day

7 5	0 7	3 4
Year	Mo.	Dày

Note: There will be federal permits that require additional monitoring areas. Example:

- 1. Digester PH
- 2. Chlorine'residual
- 3. Industrial discharges into municipal systems
- 4. Major contributors to the municipal flow

These parameters will be specified in the federal permit. Make sure that these parameters are properly marked:

BOD₅ 4 .Creamery

- 8. It is preferable that the sequence to fill the EPA 3320-1 Form be:
 - 1. Flow
 - 2. PH
 - .3. BOD₅
 - a. Influent
 - b. Effluent
 - . c. Major contributor.
 - d. % Removal
 - 4. S.S.
 - a. Influent
 - b. Effluent
 - ç. Major contributor
 - d. % Removal
 - 5. Fecal Coliform
 - 6. Additional parameters
 - a. Heavy metals
 - b. Grease and oil
 - c. Łtc.

3. Flow Data

- 1. In parameter space enter:
 - a. Flow
 - b. Sample location number
 - c. Sample Location
- 2. Concentration section
 - a. Place dashes (---) in "reported" line, "permit condition" line, units column and no. ex. column.

. ,		Concentr	ation	سرس	
Parameter (Minimum .	Average	Maximum	Units	No. Ex
iFlow 1	-,				
Influent					

- 3! Frequency of analysis column
 - a. Permit condition line
 - 1. Enter daily
 - b. Reported line
 - 1. Enter cont. if the plant flow is measured by flow meter.
 - 2. Enter daily if the plant flow is measured by hour pump operation.
 - 3. Enter daily if plant flow is measured by a totalizer.
 - 4. Leave blank if no method of measurement.
- Sample type column
 - a. Place N/A or dashes (---) in both "reported" line and "permit condition" line.
- 5. Quantity section
 - a. Permit condition line
 - 1. Place dashes (---) in minimum space.
 - Using federal permit enter average flow condition in average space and maximum condition in maximum space.

Note: These conditions are the numbers in () in the flow parameter. ***Flow - $\frac{m^3}{day}$ (MGD) --- $\frac{757}{(.2)}$ 1892 (.5)

- b. Units column
 - 1. Enter MGD
- c. Reported line

(See note below)

1. Using the state monitoring enter the lowest, minimum flow.

61 recorded during the 3 month period in minimum space.



- 2. Enter the highest (maximum) flow recorded during the 3 month period in maximum space.
- 3. Enter average flow of the 3 month period in average space.

Note: By finding the minimum flow, the maximum flow and average flow using the 3 state monitoring forms, divide each value by 1,000. The result is minimum flow, maximum flow and average flow in MGD units.

Flow in 1,000's GPD = MGD

Example: Assume the minimum flow from the state report indicated 190 (1,000's GPD) by dividing by 1,000, the value of .190 MGD is obtained.

- d. No. Ex. (Number of Exceptions)
 - 1. Enter in "reported" line the number of times the plant flow exceeded the maximum flow condition required by permit. If none, enter zero.
 - Enter dashes (---) in "permit'condition" line. Usually this space is blacked out.

N/A	cont		, .	•			0	5 "	231 290	231	190	Reported 190 Permit	Q
Sample Type	Units Ex Analysis	mō X.	ST.	Max imum	Average ^	Units Ex. Minimum	× o	Units		Average Maximum	Minimum	•	
• (Frequency	n-2 		ation	Concentration		`.		Hty	Quantity		•	rameter
						. 46	ŀ				شيفييسيسينيني		

- 1. Parameter column
 - a, Record PH
 - b. Sample location by number
 - c. Sample location by description
 - Note, 1 a and 1 b are located in federal permit -
- 1. Concentration Section
 - a. Place dashes in corresponding spaces "reported line", permit condition, units, and no. ex.

	1			Concentr	ation	
	Parameter	Min	imum	Average	Maximum	Units No.
	PH . 3			~		,
:	Final Effluent .		,			

- "Frequency of Analysis" Column
 - a. "Reported" Line
 - 1) Using State monitoring reports, count the number of PH tests performed in one week. Ex: If PH test was run 7 days in one week, then record 7/7. If the test was once per week, record 1/7.
 - b. "Permit Condition" Line
 - 1. Enter required frequency of analysis as specified in Federal permit. Usually requirement is daily, then record 7/7.

NOTE: RECORD THE FREQUENCY THE PH TEST WAS RUN EVEN THOUGH THE FEDERAL PERMIT REQUIREMENT IS LOWER THAN THE FREQUENCY TESTED.

EX: IF PH TEST WAS RUN 5/7, BUT FEDERAL PERMIT REQUIRED ONLY 2/7, RECORD 5/7 AND BASE ALL REQUIRED INFORMATION ON THE 5/7 FREQUENCY.

- 3. "Sample Type" Column
 - a. Use grab for both "reported" line and "permit condition" line.

NOTE: PH SHOULD ALWAYS BE RUN ON GRAB SAMPLES.

- 4. "Quantity" Section
 - a. Place dashes in the average spaces for both "reported" line and "permit condition" line.
 - b. "Units" Column
 - 1. Record SU (Standard Units)

- c. "Permit Condition" Line
 - 1. Minimum space record 6.5 or the value indicated in permit.
 - 2. Maximum space record 9.0 or the value indicated in permit.
- d. "Reported" Line
 - 1. Using State monitoring forms, record the lowest (minimum) PH obtained for the 3 reporting months.
 - Using State monitoring forms, record the highest (maximum) PHobtained for the 3 reporting months.
- e. No. Ex. (Number of Exceptions)
 - 1. "Reported Line"
 - a. The total number of times the PH exceeded the maximum allowed by federal permit, and the total number of times the PH was lower than the minimum allowed by federal permit.
 - 2. Permit Condition" Line
 - Place dashes if not blocked.

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Condition	i g	. !
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Condition 6.5		, in the second
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D. BOD₅ Data

- 1. In parameter space enter:
 - a. BOD5
 - b. Sample location number
 - c. Sample location

2. Concentration section

- a. "Permit condition" line
 - 1. Enter the average and maximum concentration specified by federal permit.
 - -2. Enter dashes (---) in minimum space.
- b. "Reported" line
 - 1. Enter minimum (lowest) concentration (mg/l) of BOD5 in the three months of BOD5 tests that have been performed.
 - 2. Enter average concentration (mg/1) of BOD5 in the three months of BOD5 analysis that have been performed.
 - 3. Enter maximum (highest) concentration (mg/1) of BOD5 in the three months of BOD5 analysis that have been performed.
- c. "Units" column
 - 1. Enter mg/1
- d. No. Ex. (Number of Exceptions)
 - 1. "Permit condition" line.
 - a. Enter dashes
 - 2. "Reported" line
 - a. Enter the number of times the maximum concentration value was exceeded for the reporting period (3 months). If none, enter zero.
- 3, Frequency of analysis
 - a. 'emit condition' line
 - 1. Enter frequency of analysis specified by federal permit (2/7, 4/7, 1/30, 1/90).
 - b. "Reported" line --
 - 1. Enter frequency of tests used to calculate average BODs. Example: If the 24 hr. composite sample is used to calculate the average BODs then frequency is 1/30. If the weekly analysis is used then frequency is 2/7, 4/7 etc., depending on weekly frequency.

- 4. Sample type
 - "Permit condition" line
 - Enter sample type specified by federal permit (composite, grab, 24 hr. composite).
 - "Reported" line
 - 1. Enter sample type used for analysis (grab, 6 or 8 hr. composite, 24 hr. composite).
- "Quantity" section
 - a. "Permit condition" line
 - 1. Enter dashes (---) in minimum space.
 - 2. Enter average and maximum quantity specified by federal permit.

Note: The average and maximum values are the values in () in the permit.

kg/day (lbs/day) Daily Ave. Wastewater Parameter

***Biochemical Oxygen Demand (5-day)

_109 (241)

126 (283)

- "Reported" line
 - Enter-minimum 1bs/day of BOD5 in minimum space.
 - Enter average lbs/day of BOD5 in average space. Enter maximum lbs/day of BOD5 in maximum space,
- "Units" column
 - 1. ×Enter lbs/day
- No. Ex. (Number of exceptions)
 - "Permit condition" line
 - a. Enter dashes (---)
 - "Reported condition" line
 - a. Enter number of times the 1bs/day of BOD5 exceeded the maximum value specified by the federal permit. If none, enter zero. ·

E. Percent Removal BOD5

1. Calculate the percent BOD₅ removal for each pair of influent and effluent analyses made during the reporting period.

√Influent BOD5 - Effluent BOD5 x 100 = % Removal

Influent BOD5

Note: Use either mg/l or lbs/day values.

- 2. In parameter space
 - a. Enter percent removal BOD5
- 3. Concentration section
 - Enter dashes (---) in reported line, permit condition line, units, and No. Ex.
- 4. Frequency of analysis
 - a. Enter dashes _(---) in reported line and permit condition line.
- 5. Sample type
 - a. Enter dashes (---) in reported line and permit condition line.
- 6. Quantity section
 - a. "Permit condition" line
 - 1. Enter 85% in average space
 - -2. Enter dashes (---) in minimum and maximum spaces.
 - b. "Reported" line
 - 141. Enter minimum percent removal of BOD5
 - 2. Enter average percent removal of BOD5
 - 3. Enter maximum percent removal of BOD5
 - c. "Units" column
 - 1. Enter %
 - d. No. Ex. (Number of Exceptions)
 - 1. "Permit condition" line
 - a. Enter dashes (---):
 - 2. "Remorted" line
 - a. Enter number of times the average percent removal 85%, was not achieved. Enter zero if none.

DIFFERENT BOD5 REPORTING EXAMPLES

The same of the sa			
	Quantity	Concentration	Frequency
Parameter	Minimum Average Maximum Units	No Minimum Average Maximum Units No.	Of Sample Analysis Type
*	للماري يندك والمرازي المماري والمصافرة والم	EA	

1-			1-1. / mie. ()	;!										٠,
	BOD ₅ 1	Reported	⁷ 269	. 359	445	•	-,	164	185	232	,		2/7	8 hr.comp.
	Influent	Permit Condition				lbs/day					mg/l _a		2/7	Comp.
	ROD. 2	Reported	32	53	66	$\overline{\ }$	Ō	19	35	60	•	1	2/7	8 hr.comp
į	80D ₅ 2 Effluent	Permit Condition		125	188	lbs/day	·,	,	30 .	; 45	mg/1		2/7	Comp.

BOD ₅ 1	Reported	and the second s	335		, ,	0	(181			0	1/90	8 hr.comp.
	Permit Condition			•′	lbs/day					mg/l	-	1/90	Comp.
BOD ₅ 3	Reported	51	58	65		0	28	30	. 33		0	1/30	8 hr.comp.
Final Effluent	Permit Condition		50	75	lbs/day			_ 30	45	mg/l		1/30	Comp.

F. Suspended Solids (S.S.) data

- 1. In parameter space enter
 - a, 'S.S.
 - b. Sample location number
 - . c. Sample location
- 2. Concentration section
 - a. "Permit condition" line
 - 1. Enter the average and maximum concentration specified by federal permit.
 - 2. Enter dashes (---) in minimum space.
 - b. "Reported" line
 - 1. Enter minimum (lowest) concentration (mg/l) of S.S. in the three months of S.S. tests that have been performed.
 - 2. Enter average concentration (mg/1) of S.S. in the three months of S.S. analysis that have been performed.
 - 3. Enter maximum (highest) concentration (mg/1) of S.S. in the three months of S.S. analysis that have been performed.
 - c. "Units" column
 - 1. Enter mg/1
 - d. No. Ex. (Number of Exceptions)
 - 1. __"Permit condition" line
 - a. Enter dashes
 - 2. 3"Reported" Line
 - a. Enter the number of times the maximum concentration value was exceeded for the reporting period (3 months). If none enter zero.
- 3. Frequency of analysis >
 - a. "Permit condition" line
 - Enter frequency of analysis specified by federal permit (2/7, 4/7, 1/30, 1/90).
 - b. "Reported" line
 - Enter frequency of tests used to calculate average S.S. Example: If the 24 hr. composite sample is used to calculate the average S.S. then frequency is 1/30. If the weekly analysis is used, then frequency is 2/7, 4/7 etc., depending on weekly frequency.

_ 4. Sample type

- a. "Permit condition" line
 - Enter sample type specified by federal permit (composite, grab, 24 hr. composite.)
- b. "Reported" line
 - 1. Enter sample type used for analysis (grab, 6 or 8 hr. composite, 24 hr. composite.)
- 5. Quantity section
 - a. "Permit condition" line

Enter dashes (---) in minimum space.

2. Enter average and maximum quantity specified by federal permit,

Note: The average and maximum values are the values in () in the permit.

Wastewater Parameter — kg/day (lbs/day) Daily Ave.

Max.

***Suspended Solids

光 (158)

90 (293)

- b. "Reported" line
 - 1. Enter minimum lbs/day of S.S. in minimum space.
 - 2. Enter average lbs/day of S.S. in average space.
 - 3. Enter maximum lbs/day of S.S. in maximum space.
- c. "Units" column
 - 1. Enter lbs/day
- d. No. Ex. (Number of Exceptions)
 - "Permit condition" line
 - a. Enter dashes (---)
 - 2. "Reported" line.
 - a. Enter number of times the lbs/day of S.S. exceeded the maximum value specified by the federal permit. If none, enter zero.

- Percent Removal of Suspended Solids (S.S.)
 - Calculate the percent S.S. removal for each pair of influent and effluent analyses made during the reporting period.

Influent S.S. - Effluent S.S. x 100 = % Removal Influent S.S.

Note: * Use either mg/l or lbs/day values

- In parameter space
 - a. Enter percent removal S.S.
- Concentration section
 - Enter dashes (---) in "reported" line, "permit condition" line, units and No. Ex.
- Frequency of analytis
 - "a. Enter dashes (---) in "reported" line and "permit condition" line.
- 5. Sample ≰ype j
 - a. Enter dashes (---) in "reported" line and "permit condition" line.
- Quantity section
 - "Permit condition" line

 - Enter 85% in average space
 Enter dashes (---) in minimum and maximum spaces
 - "Reported" line b.
 - 1. Enter minimum percent removal of S.S.
 - Enter average percent removal of S.S.
 - Enter maximum percent removal of S.S.
 - "Units" column
 - . 1. Enter t
 - d. No. Ex. (Number of Exceptions)
 - 1. "Permit condition" line
 - .a. Enter dashes (---)
 - "Reported" line
 - Enter number of times the average percent removal 85%, was not achieved. Enter zero, if none.

DIFFERENT SUSPENDED SOLIDS REPORTING EXAMPLES

T	Downward and	<i>y</i> `		Quanti	ty		Concentrat	tion	Frequency	٠٦
	Parameter	, ,	Minimum	Average	Maximur	No. Units _{Ex}	Average Ma	aximum Units		Sample Type
	, •						 	,		المرابع والمتعارض

	S.S. 1	Reported		300		· · · · · ·	0		162			0	1/90	8 hr. comp
	Influent	Permit Condition	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, , , , , , , , , , , , , , , , , , ,		lbs/day		, -			mg/1		1/90.	Comp.
į		Reported	· 15	38	53	• , ,	0	[,] 8⁻ ∮	20 ်	28		0.	1/30	8 hr.comp.
•	S.S. 3 Final Effluent	Permit Condition		50 ;-	75	lbs/day			30	45	mg/l		1/30	Comp.

		~· 			· `	† 		، سه جود							
	,		Reported	212	300	354 ,			. 112	141	185	.*		2/7	B hr.comp
S.S. Influent	1		Permit Condition	*	1		lbs/day				Ö	mg/1	!	2/7	Comp.
s.s.			Reported	19	35	50	-C	0	8	18.	29		0	2/7	8 hr.comp
Effluent.		·· - ·	Permit Condition		125	188	lbs/day		***	30	45	mg/l		2/7	Comp.

3

H. FECAL COLIFORM DATA

- 1. Refer to EPA Manual 430/1 74-011 Self-Monitoring Procedures for Basic Parameters for Municipal Effluents, Section 15 22 & 23.
- I. Completion of Form.
 - 1. Enter (print) name of principal executive officer.

Note: The person could be the mayor, city manager, council president, clerk, public works manager, plant superintendent, city engineer, plant operator.

REMEMBER THAT IT IS THE TOWN THAT HAS THE PERMIT AND NOT THE OPERATOR.

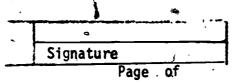
- 2. Enter title.
- 3. Enter year, month, day report is prepared.
- 4. Signature of principal executive officer or authorized agent.

Note: The person who prepared the report should sign the form.

5. Enter number of pages the total discharge monitoring report is.

Example: If all requirements are one page, enter Page 1 of 1. If all, requirements are on 2 pages, enter Page 1 of 2; the second page, Page 2 of 2.

Name of principal officer	Title of Officer	Date			$[\cdot]$
Koundakjian, Philip R.	Instructor	7/5	0/8_	0/4_	ľ
Last, First .	Title	Year	Mo.	Day	<u> •</u>



- 6. Check the completed form over. Make sure all spaces have either information or dashes (---).
- 7. Make 4 copies of the report. One report mail to Kansas City.

 Address: EPA, 1735 Baltimore Avenue, Kansas City, Missouri, 64108.

One report mail to Iowa DEQ. Address: 3920 Delaware Avenue, P. O. Box 3326, Des Moines, Iowa, 50316.

One report file in Town Hall.

One report file in plant office.

INSTRUCTIONS

Provide datas for period covered by this reporting spaces maked "REPORTING PERIOD".

Enter reported minimum, overage and maximum values under "QUANTITY" and "CONCENTRATION" in the units specified for each permister as appropriate. Do not enter_values in boxes containing esterisks. "AVERAGE" is everage casefuled ever ectual time discharge is operating. "MAXIMUM" and extreme values observed during the reporting period.

Specify the number of analyzed pacifies that exceed the meximum (and/or minimum as appropriate) permit conditions in the columns isbuild "No. Ex." if none, enter "O".

Specify frequency of analyzed pack parameter as No. ensigness/No. days. (e.g., "3/7" je equivalent of analyzed performed every 7 days.) If continuous enter "CONT."

Specify sample type ("grab" or "___Ar. composite") as applicable. If frequency was continuous, enter "NA".

Appropriate almosture is required on battern of this form. LONGITUDE

Appropriaté algusture is required on bottom of this form Remove carbon and retain copy for your records.

Fold of	long dotted lines,	staple and	ment Original to	office specified in nom

PARAMETER		(3 cord only) 130-40	QUAN	TITY	7	#J-4#	(d card only) 130-00	CONCENT	Ple and meil Ongi			PREQUENCY	(00-70)
		MINIMUM	AVERAGE	MAXMUM	UNITS	10 X	MINIMUM	AVERAGE	MAXIMUM	Units	NO.	OF ANALYSIS	SAMPLE TYPE
•		.190	.231	.290] ,	0						cont.	31/6
OW	CONDITION		. 500	.750	MGD		***			1 <u></u>			N/A*
•	-	8.1		8.9		0				 -		Daily	
fluent	PERMIT COMO: TION	6.5	·	9.0	, SU					┥		7/7	Grab
Pro Comment	REPORTED	6.3	· ·	6.8	30						4=	7/7	Grab
lester 4	PERMIT ,		,		-					↓		7/7	Grab
ICS (EI	REPORTED	200			SU							7/7	Grab
)s 1	PERMIT	269	359	445	-		164	185	232			2/7	8 hr/co
luent	CONDITION				1bs/day	 	<u>,</u>			Mg/L		2/7	Comp
)s / · · · · · · · · 2	REPORTED	32	53	.66		0	19	·35	60		1	2/7	
luent	PERMIT CONDITION		125	188	lbs/day]		30	. 45	Mg/L		· · · · · · ·	8 hr/co
pended 1		212	300	354	1.23/ 50		112	141 -		mg/L	1	2/7	Comp
luent	PERMIT CONDITION		۹		76000				1/85	 			8 hr/co
pended	REPORTED			 	lbs/day	-		3		Mg/L	 -	2/7	Comp
ids 2 Luent	PERMIT	1987	35	50	4	0	<u>8</u>	.18	29	· .	0	2/7	8 hr/co
Tient.	CONDITION		125	188	lbs/ y	 		30	45 ^A	Mg/L	-	2/7	Срер
	PERMIT		<u>. </u>	ļ ·	1			· 		,		anganas A	/2004/
ME OF PRINCIPAL EXECUTIV	CONDITION				d			, Managamen				$\overline{}$	

Koundakitan, Philip R. PIRST 1920-1 (10-72)

I certify that I am fauthor with the information contained in this

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

ĻĄ

00035891

PERMIT NUMBER

REPORTING PERIOD FROM

018

15

Q1

LATITUDE

(24-27: 1<u>35-30: (35-31:</u>

15 0 7 31

Attached are:

- Operation Permit System

 Monthly Monitoring Report

 For the month of January, February & March of 1977
- 2 EPA Forms 3320-1
- Composite (24 hr.) sample tests results p-rformed by a commercial laboratory

NOTE: The flow of the day when the samples were taken are from 8:00 a.m. to 8:00 a.m. which is when you have taken total flow readings and changed the chart.

YOU ARE TO:

- 1. Complete the monthly monitoring report
 - a. Facility number
 - b. Dischargeserial number
 - c. Influent 24 hour sample collection
 - d. Effluent 24 hour sample collection
- 2. Complete the Federal EPA Form (3320-1)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - FINAL

Permit No. IA-0022012

2. During the period beginning on December 2, 1976, and lasting through the expiration date, permittee is authorized to discharge from outfall Serial No. 001 ((new or upgraded facilities)).

Such discharges shall be limited and monitored by the permittee as specified: '

Effl	<u>uent</u>	Limi	tāti	ons
------	-------------	------	------	-----

Minimum Monitoring Requirements

* ,		. 1	, –					THE GUILT CHICKLES
Wastewater Parameter	٠	kg/day (lbs/day) Daily Ave.	· · ·	Max.	Other Units Daily Ave.		Measurement Frequency	Sample Sample Type Location
***Biochemical Oxygen Demand (5-day) **EQAP	. '	23 (50)	4	34 (75)	30 mg/l	45-mg/1	1/30 1/30	composite 2 composite 1 f
•***Suspended Solids <		23 (50)		34 (75)	30 mg/1	45 mg/l	monthly 1/30	grab 2 composite 2
***Flow m ³ /day (MGD)- ***pH ***Fecal Coliform	•	6.5-9.0		(not to be	681 (.18) averaged)	1135.5 (.3)	1/30 1/30 daily	composite 10
organisms/100 ml Temperature	ب	a	; ;			400 (weekly average	1/7	grab 2 grab 2
Settleable Solids	· ,` ·						daily daily	grab 1 grab 1.2

The arithmetic mean of the values for effluent samples measuring biochemical oxygen demand (5-day) and suspended solids collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (85 percent removal--minimum).

There shall be no discharge of floating or settleable substances in other than trace amounts. *Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: (1) raw sewage influent to sewage treatment plant (2) final effluent from new facility.

** Sample submitted for the Effluent Quality Analysis Program (EQAP) conducted in accordance with Ghapter 18 of the Rules of the Iowa Department of Environmental Quality (1973 I.D.R.).

***Only these monitoring data shall be summarized and reported to the Environmental Protection Agency.



79

February 4, 1977

Dear.Sir:

These are laboratory results of samples submitted to us for analysis for the month of January. The sample was put into service from 8:00 a.m. on the 13th of the month.

Raw BO05

.s. s

Ammonia Nitrogen

- Final

- BQD₅

S. S.

Ammonia Nitrogen

205

125

s 18

36

°31 •

16

.81

March 7, 1977

Dear Sir:

These are laboratory results of samples submitted to us for analysis for the month of February. The samples was put into service from 8:00 a.m. on the 17th of the month.

· <u>Raw</u> ·		
BOD ₅		172
s. s.		; 168
Ammonia Nitrogen		20
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<u>Final</u>	<u>l</u> ., *,	٠,		£ .	.\		
BOD ₅		a ••	. 4		634	22	•
s.s.	, • • ,		* .		<i>J</i>	48	
^Ammor	nia∖Nitro	oğen∵	1. f	,	``\$ ***	12	

71

April 15, 1977

Dear Sir:

These are laboratory results of samples submitted to us for analysis for the month of March. The sampler was put into service from 8:00 a.m. on the 25th of the month.

Raw.

BOD5

5₂. Š

Ammonia Nitrogen

Final

BODS

€S.~S.

Ammonia Nitrogen

195

158

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25

~28

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STATE OF LOWA DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY MANAGEMENT DIVISION

MONTHLY MONITORING REPORT

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BOD,	<u> </u>	MG/L	LB\$/D/	VN 78024
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FLOW		MILLIC	ON GALLONS D	NY 74324
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EFFLUENT 24 HOUR SAMP			/
BOD;) ,	MG/L	LIBS/DAY	76024
SUSPENDED SOLTOS	MG/L	LBS/DAY	74024
' AMMONIA NITROGĖN	MG/L	LBS/DAY	[70424]
FECAL COLIFORM	ORGANIS	MS/100 ML	76324

SIGNATURE OF EXECUTIVE OFFICER OR AGENT

FORM WOMD-VI TRICKLING FILTER



84.

STATE OF IOWA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY MANAGEMENT DIVISION

OPERATION PERMIT SYSTEM MONTHLY MONITORING REPORT

FACILITY NAME

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AMMONIA HTROGEN MG/L LBS/DAY [7424

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AMMONIA HITHOGEN MG/L LBS/DAY [74024]

SIGNATURE OF EXECUTIVE OFFICER OR AGENT

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FORM WOMD-VI TRICKLING FILTER



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STATE OF IOWA , DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY MANAGEMENT DIVISION

OPERATION PERMIT SYSTEM MONTHLY MONITORING REPORT

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MELUENT	24 HOUR	SAMPLE	COLLECT	ON [000]	•	
ROD, 4				L0S	/ĐẠYÌ	78024
SUSPENDE	D SOLIDS		_MĞ/L	L88	/DAY	74024
AMMONIA	NITROGEN.		_'MG/L	L.	/DAY	70424
FLOW	٠.	~ ,	MILLION	GALLONS	/DAY	74224

FFLUEN	J 24 HQUR S	AMPLE COLLECTI	ON [001] &	
BOD,		MG/L	LBS/DAY	[76024]
SUSPE	DED SOLIDS	MG/L	LBS/DAY	[74924]
FECAL	COLIFORM.	MG/L ORGANIS	LBS/DAY MS/100 ML	[76324] [76324 [#]], '

4	4 , \$19 H	ATURE DE C	SECOL ME O	FFICER OR	AGENT
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INSTRUCTIONS

L	· • • • • • • • • • • • • • • • • • • •			· · · · · ·	1 Provide datas for period covered by Due report is species market. 21-ORTING PERIOD* 2 Enter reported minimum, Everage and maximum values under "QUA. 177Y" and "CONCENTRATION is the units specified for each parameter as appropriate De not enter values is beyes containing.
1:3	- ,1 4 161	·			autorisks. "AVERAGE" to everage computed, over actual time discharge to operating. "MAISSING and "MINISSIN" are extreme values observed during the reporting period.
1.	PERMY HUMBE	n ' Dis	94C	LATITUDE LONGITUDE	3. Specify the number of neallyzed enemies that exceed the meximum (and/or minimum on appropriate) permit conditions in the columns labeled "No. Ex." If none, enter "O". 4. Specify frequency of analyzed for each parameter so No. analyzes/No. days. (a.g., "3/7" to equin
←			لنجيجا لہ		long to 3 melyese performed every 7 days.) If continuous enter "CONT"

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